東北大学機関リポジトリ
TOUR
Tohoku University Repository

Studies on Sensory Deprivation: II. Part 3. On the Estimation of the Body Image

著者	Kitamura Seiro
journal or publication title	Tohoku psychologica folia
volume	22
number	3-4
page range	69-71
year	1964-03-30
URL	http://hdl.handle.net/10097/00123728

STUDIES ON SENSORY DEPRIVATION : II.

PART 3. ON THE ESTIMATION OF THE BODY IMAGE

by

Seiro Kitamura (北村晴朗)

(Department of Psychology, Tohoku University, Sendai)

Effects of the sensory deprivation upon the estimation of the height of the body image were measured. The size of the body image after sensory deprivation of 48 hours was estimated at higher values than that of the control group, and also than that of the body image estimated befoer sensory deprivation.

Two-point limen immediately after sensory deprivation was found much lower than that of the control group (1). This finding suggests an increase in somesthetic sensitivity after sensory deprivation. Therefore, further experiments are intended for investigation as to whether there are some corresponding changes in the estimation of the size of the body image, in which the somesthetic factors play a fairly great part.

Procedure

The procedure for measuring the height of the body image of the subjects was fairly simple. Subjects, standing upright at 55 cm. distance from a measuring apparatus with their eyes shut, were asked to show their body heights with fingers of their right hand on the surface of the pole of the apparatus. The experimenter read the scale on the measure apparatus. The estimation was repeated 5 times. Then Ss were given the same task under the condition of opened eyes. At every interval between estimations, the experimenter measured the estimated height while Ss were asked to close their eyes. After all the trials were run, the real height of the S's body as well as his weight was measured. The measurements above mentioned were taken twice in this procedure before and after the sensory deprivation. The Ss of the control group were also tested twice, at the interval of 48 hours.

Results

As Table 1 shows, the body image under the condition of closed eyes after sensory deprivation was generally estimated more highly than that before sensory depivation, while in the control group the body image in the retest after 48 hours was estimated at lower values than that in the first test.

The difference of the mean difference scores between experimental group and control group was highly significant. The results under the condition of opend eyes were similar, though the tendency of the increasing height of the image was not so distinct.

After the sensory deprivation of 48 hrs. every S was found to lose 2.6 kg.

Table 1. Difference between the estimated height and the real height under condition of closed eyes.

(cm.)

Experimental Group				Control Group			
Ss	before S. D.	after S. D.	dif.	Ss	1st test	retest	dif.
KT	+3.0	+4.3	+1.3	MY	+2.0	+0.5	−1.5
NG	−2.4	+2.5	+4.9	KZ	+1.9	−6.1	−8.0
AB	−2.3	−0.6	+1.7	NM	−6.6	−8.3	−1.7
SG	−2.7	−0.2	+2.5	OM	+10.1	+4.0	−6.1
FS	−4.9	−2.1	+2.8	MU	−1.0	−2.0	−1.0
TZ	+5.9	+6.6	+0.7	IM	−2.3	−8.4	−6.1
KF	−2.2	+6.3	+8.5	SK	−4.1	−6.9	−2.8
UD	+4.0	+2.5	−1.5	WB	−2.9	−1.8	+1.1
MG	−3.2	±0.0	+3.2				
Mean SD			+2.68 2.65	Mean SD			−3.25 2.91

$t_0=4.20$; $df=15$; $p<.01$

in weight (SD=0.69) in average, and also, a little strange to say, every S showed an increase of 11 mm. in height (SD=0.35) in average.

Discussion

The finding that the size of the body image was estimated at higher values after sensory deprivation positively corresponded with the fact that two point limen was found much closer (1). The body image after sensory deprivation, in case of closed eyes, seems to be estimated at larger values, because of the enlarged sensitivity of the somesthetic sensation, which is the major factor of the feeling of the body image when eyes are closed.

The results also may correspond to our finding that the congenital blind persons overestimated their body heights (2).

References

(1) Nagatsuka, Y., and Maruyama, K. Studies on sensory deprivation: I. Part 2, Effects of sensory deprivation upon perceptual and motor functions. Tohoku Psychologica Folia, 1963, 22, 5-13.

(2) Kitamura, S. Tendency to reduction in size of autoscopic image and visual body image. Tohoku Psychologica Folia, 1960, 19, 17-27.

(Received January 10, 1964)

Zusammenfassung

Der Einfluss von der sinnlichen Entziehung von 48 Stunden auf die Schätzung der Grösse des Körper-Bilds der Versuchsperson wurde untersucht. Die Höhe des Körper-Bildes wurde mit geschlossenen Augen grösser abgeschätzt, als die der Kontroll-Gruppe und als die des Körper-Bildes vor der sinnlichen Entziehung.